

# WEST Search History

DATE: Friday, June 18, 2004

<u>Hide?</u>	<u>Set</u> <u>Name</u>	<u>Query</u>	<u>Hit</u> <u>Count</u>
		<i>DB=USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L32	L22 and authenticat\$4	15
		<i>DB=TDBD; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L31	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	5
<input type="checkbox"/>	L30	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	0
<input type="checkbox"/>	L29	L28	0
		<i>DB=PGPB; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L28	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	57
<input type="checkbox"/>	L27	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	1337
		<i>DB=JPAB; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L26	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	20
		<i>DB=USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L25	L22 and 19 and 15	2
<input type="checkbox"/>	L24	L22 and 19 and 15	2
<input type="checkbox"/>	L23	L22 and 19	2

<input type="checkbox"/>	L22	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	17
<input type="checkbox"/>	L21	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	1104
<input type="checkbox"/>	L20	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work)	95490
<input type="checkbox"/>	L19	L16 and l6	3
<input type="checkbox"/>	L18	L16 and l4	2
<input type="checkbox"/>	L17	L16 and l6	3
<input type="checkbox"/>	L16	L15 and l5	45
<input type="checkbox"/>	L15	l1 and l10	72
<input type="checkbox"/>	L14	L13 and l6	5
<input type="checkbox"/>	L13	L1 and l7	88
<input type="checkbox"/>	L12	709/232.ccls.	585
<input type="checkbox"/>	L11	709/232.ccls.	585
<input type="checkbox"/>	L10	709/203.ccls.	2189
<input type="checkbox"/>	L9	709/228.ccls.	705
<input type="checkbox"/>	L8	709/225.ccls.	800
<input type="checkbox"/>	L7	709/224.ccls.	1780
<input type="checkbox"/>	L6	radius and l2	132
<input type="checkbox"/>	L5	(subscriber\$ or client\$) same access same (network or internet or lan or local area network)	14812
<input type="checkbox"/>	L4	L3 and (isp or internet service provider\$)	283
<input type="checkbox"/>	L3	L2	772
<input type="checkbox"/>	L2	dynamic host configuration protocol or dhcp	772
<input type="checkbox"/>	L1	(assign\$4 or allocat\$4) same (network near address\$2)	1641

END OF SEARCH HISTORY

# Hit List

[Clear](#) [Generate Collection](#) [Print](#) [Fwd Refs](#) [Bkwd Refs](#)  
[Generate OACS](#)

## Search Results - Record(s) 1 through 17 of 17 returned.

☐ 1. Document ID: US 6741853 B1

L22: Entry 1 of 17

File: USPT

May 25, 2004

US-PAT-NO: 6741853

DOCUMENT-IDENTIFIER: US 6741853 B1

TITLE: Device aware internet portal

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 2. Document ID: US 6714987 B1

L22: Entry 2 of 17

File: USPT

Mar 30, 2004

US-PAT-NO: 6714987

DOCUMENT-IDENTIFIER: US 6714987 B1

TITLE: Architecture for an IP centric distributed network

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 3. Document ID: US 6714969 B1

L22: Entry 3 of 17

File: USPT

Mar 30, 2004

US-PAT-NO: 6714969

DOCUMENT-IDENTIFIER: US 6714969 B1

TITLE: Mobile terminal with integrated host application software

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 4. Document ID: US 6633761 B1

L22: Entry 4 of 17

File: USPT

Oct 14, 2003

US-PAT-NO: 6633761  
DOCUMENT-IDENTIFIER: US 6633761 B1

TITLE: Enabling seamless user mobility in a short-range wireless networking environment

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 5. Document ID: US 6611868 B1

L22: Entry 5 of 17

File: USPT

Aug 26, 2003

US-PAT-NO: 6611868  
DOCUMENT-IDENTIFIER: US 6611868 B1

TITLE: Method and system for automatic link hang up

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 6. Document ID: US 6600734 B1

L22: Entry 6 of 17

File: USPT

Jul 29, 2003

US-PAT-NO: 6600734  
DOCUMENT-IDENTIFIER: US 6600734 B1

TITLE: Apparatus for interfacing a wireless local network and a wired voice telecommunications system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 7. Document ID: US 6539431 B1

L22: Entry 7 of 17

File: USPT

Mar 25, 2003

US-PAT-NO: 6539431  
DOCUMENT-IDENTIFIER: US 6539431 B1  
**\*\* See image for Certificate of Correction \*\***

TITLE: Support IP pool-based configuration

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 8. Document ID: US 6452910 B1

L22: Entry 8 of 17

File: USPT

Sep 17, 2002

US-PAT-NO: 6452910

DOCUMENT-IDENTIFIER: US 6452910 B1

TITLE: Bridging apparatus for interconnecting a wireless PAN and a wireless LAN

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 9. Document ID: US 6442165 B1

L22: Entry 9 of 17

File: USPT

Aug 27, 2002

US-PAT-NO: 6442165

DOCUMENT-IDENTIFIER: US 6442165 B1

TITLE: Load balancing between service component instances

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 10. Document ID: US 6427174 B1

L22: Entry 10 of 17

File: USPT

Jul 30, 2002

US-PAT-NO: 6427174

DOCUMENT-IDENTIFIER: US 6427174 B1

TITLE: Dynamic IP addressing and quality of service assurance

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 11. Document ID: US 6427170 B1

L22: Entry 11 of 17

File: USPT

Jul 30, 2002

US-PAT-NO: 6427170

DOCUMENT-IDENTIFIER: US 6427170 B1

TITLE: Integrated IP address management

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMMC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 12. Document ID: US 6393484 B1

L22: Entry 12 of 17

File: USPT

May 21, 2002

US-PAT-NO: 6393484

DOCUMENT-IDENTIFIER: US 6393484 B1

TITLE: System and method for controlled access to shared-medium public and semi-public internet protocol (IP) networks

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 13. Document ID: US 6366561 B1

L22: Entry 13 of 17

File: USPT

Apr 2, 2002

US-PAT-NO: 6366561

DOCUMENT-IDENTIFIER: US 6366561 B1

TITLE: Method and apparatus for providing mobility within a network

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 14. Document ID: US 6263369 B1

L22: Entry 14 of 17

File: USPT

Jul 17, 2001

US-PAT-NO: 6263369

DOCUMENT-IDENTIFIER: US 6263369 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Distributed architecture allowing local user authentication and authorization

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 15. Document ID: US 6212561 B1

L22: Entry 15 of 17

File: USPT

Apr 3, 2001

US-PAT-NO: 6212561

DOCUMENT-IDENTIFIER: US 6212561 B1

TITLE: Forced sequential access to specified domains in a computer network

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

---

☐ 16. Document ID: US 6119160 A

L22: Entry 16 of 17

File: USPT

Sep 12, 2000

US-PAT-NO: 6119160

DOCUMENT-IDENTIFIER: US 6119160 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Multiple-level internet protocol accounting

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	----------	-------------	--------	------	--------

☐ 17. Document ID: US 5956391 A

L22: Entry 17 of 17

File: USPT

Sep 21, 1999

US-PAT-NO: 5956391

DOCUMENT-IDENTIFIER: US 5956391 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Billing in the internet

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	----------	-------------	--------	------	--------

Clear

Generate Collection

Print


Fwd Refs

Bkwd Refs

Generate OACS

Term	Documents
WORK	517083
WORKS	148129
ACCESS	505952
ACCESSES	55115
DYNAMIC	217947
DYNAMICS	34718
HOST	140534
HOSTS	25151
CONFIGURATION	942485
CONFIGURATIONS	320895
PROTOCOL	111929
((PROVID\$4 OR FURNISH\$4 OR CONTRIBUT\$4) SAME (SERVICES\$ OR WORK) AND ((MANAG\$4 OR CONTROL\$4) SAME (ACCESS ADJ3 POINT\$)) AND (DYNAMIC HOST CONFIGURATION PROTOCOL OR DHCP) AND RADIUS).USPT.	17

There are more results than shown above. [Click here to view the entire set.](#)

**Display Format:**  

[Previous Page](#)

[Next Page](#)

[Go to Doc#](#)



First Hit    Fwd Refs

Generate Collection

Print

L22: Entry 14 of 17

File: USPT

Jul 17, 2001

DOCUMENT-IDENTIFIER: US 6263369 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Distributed architecture allowing local user authentication and authorization

Brief Summary Text (5):

Turning to FIG. 1, one approach for providing network access to a communications system 8 over an access point (such as access point 10a, access point 10b, or access point 10c) using a communications network 12 is shown. An access point is associated with a set of service components and at least one client, enabling a subscriber 14 using a host machine 16, such as a personal computer having a modem, to obtain access to system 8. As known to those of ordinary skill in the art, when referred to in the context of the Internet or other large computer networks, each client coupled to an access point provides connectivity to hosts within an area commonly referred to as a PoP or "Point of Presence." A PoP is a geographical area that is served by an access point, which is typically managed by an ISP ("Internet Services Provider"). For dial-up access methods using a public switched telephone network (PSTN), the geographical area may be defined by an area code.

Brief Summary Text (7):

For dial-up access to network 12, each access point includes a network access server (commonly referred to as a NAS), such as network access server 18. Network access server 18 functions as an interface between host machine 16 (via the modem) and the necessary services which must be provided when subscriber 14 seeks to obtain network access using a dial access method. Responding to a dial-up access request typically includes the process steps (sometimes referred to as "states") of authentication, authorization, and accounting. These states may be provided by an AAA server, such as AAA server 20. AAA server 20 uses the RADIUS protocol to communicate with devices, such as network access server 18, which request authentication, authorization, and accounting services.

Detailed Description Text (18):

Network access events are published during the processing of an access request, such as during the allocation of an address by a DHCP server or equivalent service component. Because mother cache 74 subscribes to the network access events, it is able to maintain an up-to-date set of user records. Network access events are published using an access event publisher which collects information related to an event to be published and then publishes the event using information bus 72. An access event publisher is associated with each access point having a local cache and is coupled to information bus 72. Each event publisher publishes a network event in response to the completion of a selected step that is performed during the servicing of an access request.

Detailed Description Text (19):

In accordance with a presently preferred embodiment of the present invention, there are three types of network access events published by an access event publisher. The first event may be referred to as an address allocated event that is triggered each time an address is allocated in response to an access request. For example, as shown in FIG. 2, client 86 supports host 100 that is configured to obtain network

access using a dial-up access method. As known in the art, the dial-up access method requires procuring a network address in response to an access request which has been properly authenticated and authorized by an AAA server, such as AAA server 112. The network address may be procured dynamically using the services of at least one DHCP server, such as DHCP server 114, if the user requesting network access has been selected to receive a dynamically allocated address, such as an IP address. AAA servers and DHCP servers are known in the art and will not be discussed in detail other than that necessary to disclose the present invention.

Detailed Description Text (29):

A protocol interface allows access requests received from a client to be serviced using components that may communicate using different protocols, such as AAA server and DHCP server. As shown in FIG. 2, a protocol interface, such as protocol interface 95, used by an access point is coupled to at least one client, an access event publisher, a AAA server, and a DHCP server, such as client 86, access event publisher 82, AAA server 112, and DHCP server 114, respectively. Protocol interface 95 receives a network access request from client 86 and determines the proper access methodology required to properly process the network access request. For example, if the client relies on a dial-up access methodology, such as client 86, then the protocol interface processes the network access request according to the dial-up access methodology. This includes sending a request for authentication and authorization to AAA server 12 and if authorized, sending an IP address request to DHCP server 114. Upon receipt of the IP address, protocol interface 95 forwards the IP address to client 86 which, in turn, forwards it to host 100. Receiving an IP address enables host 100 to request a log-on session by, among other things, sending the IP address to client 86 which, in turn forwards the IP address to protocol interface 95.

Detailed Description Text (44):

At reference number 234, the access request is then authenticated and authorized, and if applicable, a network address, such as an IP address, is procured dynamically. As known to those of ordinary skill in the art, authentication and authorization services may be procured using the services of a AAA server, such as AAA server 112 in FIG. 2, while a dynamically allocated IP address may be procured from a DHCP server, such as DHCP server 114.

Detailed Description Text (46):

At reference number 238, the allocated address is received by the client from the DHCP server and then relayed to the requesting host, such as host 100. Upon receipt host 100 may then respond by transmitting an account start signal, such as an account start packet, to client 86.

Other Reference Publication (7):

Rigney, et al., "Remote Authentication Dial In User Service (RADIUS)", Network Working Group, RFC 2138, Apr. 1997, pp. 1-57.

# WEST Search History

DATE: Friday, June 18, 2004

Hide?	<u>Set</u> <u>Name</u>	<u>Query</u>	<u>Hit</u> <u>Count</u>
		<i>DB=TDBD; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L31	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	5
<input type="checkbox"/>	L30	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	0
<input type="checkbox"/>	L29	L28	0
		<i>DB=PGPB; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L28	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	57
<input type="checkbox"/>	L27	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	1337
		<i>DB=JPAB; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L26	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	20
		<i>DB=USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L25	L22 and 19 and 15	2
<input type="checkbox"/>	L24	L22 and 19 and 15	2
<input type="checkbox"/>	L23	L22 and 19	2
<input type="checkbox"/>	L22	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access	17

		adj3 point\$)) and (dynamic host configuration protocol or dhcp) and radius	
<input type="checkbox"/>	L21	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work) and ((manag\$4 or control\$4) same (access adj3 point\$))	1104
<input type="checkbox"/>	L20	(provid\$4 or furnish\$4 or contribut\$4) same (service\$ or work)	95490
<input type="checkbox"/>	L19	L16 and l6	3
<input type="checkbox"/>	L18	L16 and l4	2
<input type="checkbox"/>	L17	L16 and l6	3
<input type="checkbox"/>	L16	L15 and l5	45
<input type="checkbox"/>	L15	l1 and l10	72
<input type="checkbox"/>	L14	L13 and l6	5
<input type="checkbox"/>	L13	L1 and l7	88
<input type="checkbox"/>	L12	709/232.ccls.	585
<input type="checkbox"/>	L11	709/232.ccls.	585
<input type="checkbox"/>	L10	709/203.ccls.	2189
<input type="checkbox"/>	L9	709/228.ccls.	705
<input type="checkbox"/>	L8	709/225.ccls.	800
<input type="checkbox"/>	L7	709/224.ccls.	1780
<input type="checkbox"/>	L6	radius and l2	132
<input type="checkbox"/>	L5	(subscriber\$ or client\$) same access same (network or internet or lan or local area network)	14812
<input type="checkbox"/>	L4	L3 and (isp or internet service provider\$)	283
<input type="checkbox"/>	L3	L2	772
<input type="checkbox"/>	L2	dynamic host configuration protocol or dhcp	772
<input type="checkbox"/>	L1	(assign\$4 or allocat\$4) same (network near address\$2)	1641

END OF SEARCH HISTORY

# Hit List

[Clear](#) [Generate Collection](#) [Print](#) [Fwd Refs](#) [Bkwd Refs](#)  
[Generate OACS](#)

## Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 6718376 B1

L14: Entry 1 of 5

File: USPT

Apr 6, 2004

US-PAT-NO: 6718376

DOCUMENT-IDENTIFIER: US 6718376 B1

TITLE: Managing recovery of service components and notification of service errors and failures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 2. Document ID: US 6708187 B1

L14: Entry 2 of 5

File: USPT

Mar 16, 2004

US-PAT-NO: 6708187

DOCUMENT-IDENTIFIER: US 6708187 B1

TITLE: Method for selective LDAP database synchronization

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 3. Document ID: US 6697862 B1

L14: Entry 3 of 5

File: USPT

Feb 24, 2004

US-PAT-NO: 6697862

DOCUMENT-IDENTIFIER: US 6697862 B1

TITLE: System and method for network address maintenance using dynamic host configuration protocol messages in a data-over-cable system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 4. Document ID: US 6654801 B2

L14: Entry 4 of 5

File: USPT

Nov 25, 2003

US-PAT-NO: 6654801

DOCUMENT-IDENTIFIER: US 6654801 B2

TITLE: Remote system administration and seamless service integration of a data communication network management system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 5. Document ID: US 6154776 A

L14: Entry 5 of 5

File: USPT

Nov 28, 2000

US-PAT-NO: 6154776

DOCUMENT-IDENTIFIER: US 6154776 A

TITLE: Quality of service allocation on a network

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWOC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

[Clear](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

Term	Documents
(13 AND 6).USPT.	5
(L13 AND L6).USPT.	5

**Display Format:**

TI

[Change Format](#)[Previous Page](#)[Next Page](#)[Go to Doc#](#)

First Hit    Fwd Refs  
**End of Result Set**

☐ **Generate Collection** **Print**

L14: Entry 5 of 5

File: USPT

Nov 28, 2000

DOCUMENT-IDENTIFIER: US 6154776 A

TITLE: Quality of service allocation on a network

Brief Summary Text (16):

Particular reference is made hereinafter to dynamic address allocation, although it should be understood that the invention is not limited to environments with dynamic allocation of IP addresses, but also to other environments with, for example, dynamic allocation of ports. Dynamic address allocation is provided under a number of different environments. Examples of such environments are the Remote Authentication Dial in User Service (RADIUS) and the Dynamic Host Configuration Protocol (DHCP). A description of RADIUS is to be found in C Rigney, A Rubens, W Simpson, and S Willens, "Remote Authentication Dial in User Service (RADIUS)", RFC 2138, April 1997. A description of DHCP can be found in R. Droms "Dynamic Host Configuration Protocol", RFC-2131, March 1997.

Brief Summary Text (27):

As opposed to conventional apriori allocation of QoS configuration rules, an embodiment of the invention provides an allocation of a QoS in response to detection of a new instance of an entity associated with a flow. In this manner the QoS can be allocated dynamically as activity for an entity starts. As a result, the configuration rules are only created when the flows to which they apply are present. Thus they can be allocated dynamically. They can even be based on a flow parameter (e.g., a network address or a port) allocated dynamically. A flexible mapping of a flow to entity binding to the configuration rules is thereby possible.

Brief Summary Text (30):

Alternatively, or in addition, the detection of a new instance of an entity associated with a flow can be achieved in response to a directory event. For instance this can be achieved by responding to changes in a directory of a directory service resulting from, for example, events such as a DHCP dynamic allocation phase or a RADIUS authentication phase.

Detailed Description Text (11):

In one embodiment the network access server 16 forms a network element in the form of a RADIUS client for a RADIUS server. The RADIUS client is implemented by a directory server 22 in the present example. It should be noted, however, that this is but one embodiment of the invention. For example, the network access server 16 could provide the combined functionality of a RADIUS client and a RADIUS server. Indeed, more generally, a network access server need not be provided. For example, in another embodiment the network access server could be replaced by a DHCP server.

Detailed Description Text (13):

The network access server 16 is thus able to access the directory server for user parameters and also to modify information in the directory server. Likewise the QoS server 20 is able to access both the network access server 16 and the directory

server 22 for information. In use, for example, from user session to user session, the user may be dynamically allocated an available IP address by the network access server 16. The network access server 16 is then able to access the directory server 22 to inform the latter and to update the latter with the current information about the user. Under LDAP, it is possible to retrieve user profiles using fields of IP packet headers and to change the QoS of the information flow(s) from the retrieved information.

Detailed Description Text (18):

Alternatively, it may receive a report of such an event from the directory service via the directory interface 44. A report from the directory service can be generated automatically in response to, for example, a directory entry being updated by RADIUS server or a DHCP server (not shown). Such a directory entry update can occur as a result of, for example, the dynamic allocation of a flow parameter (e.g. an IP address or port) to an entity, a record of the allocation then being made by the RADIUS or DHCP server in the entry for the entity in a directory of the directory service. The automatic reporting of the update can be pushed to the directory interface by means of a conventional filter arrangement and, for example, a replication or other conventional automatic reporting mechanism. The directory interface could be arranged to poll the directory service, although this would be less efficient.

Detailed Description Text (65):

In a further embodiment of the invention (described with reference to FIG. 6) dynamic allocation of IP addresses makes use of directory services to bind a dynamic flow parameter or parameters to an entity (e.g. an IP address to a user). In this embodiment, the triggering of the Directory Query for the QoS can be in response to a user connecting through a RADIUS login phase (or when available through the Dynamic Host Configuration Protocol (DHCP)). This login phase triggers the push of an assigned QoS in the QoS server by updating the user entry with the dynamically allocated IP address. This can be achieved by, for example, using either the LDAP replication mechanism combined with a search for a QoS, or an event notification mechanism. Here the directory server used updates the user entry with the allocated IP address from an authentication mechanism such as under RADIUS.

Detailed Description Text (66):

Thus, FIG. 6 illustrates a series of events for this further embodiment when a potential occurrence of a flow is linked to an identified event such as a login phase or dynamic configuration process (using DHCP or RADIUS). The disappearance of the same flow can also be linked to an event such as a logout phase or dynamic resource de-allocation (using DHCP or RADIUS). The rules importing the QoS can be a-priori installed and removed without the effective detection of the flow (a system with resources allocated without an effective use of them).

Current US Cross Reference Classification (4):

709/224

Other Reference Publication (6):

"Remote Authentication Dial In User Service (RADIUS)", Rigney et al., (RFC 2138), Standards Track, pp. 1-65, Apr. 1997.

Other Reference Publication (7):

"Dynamic Host Configuration Protocol", R. Droms, (RFC 2131) Standards Track, pp. 1-45, Mar. 1997.

CLAIMS:

34. The network element of claim 26, wherein said at least one parameter of said flow includes a network address allocated to said entity.



h e b b g e e e f c e h

e ge